

REMARKS:

Claims 1-19 are currently pending in the present application. Claims 1 – 19 are rejected under 35 USC 103. Claims 1,2,4, 5, 8, 9, 13, 16, and 17 were rejected under 35 USC 103(a) as being unpatentable over Peterson, “3D Studio MAX 2 Fundamentals” in view of van Hook (US 6,342,892), further in view of Kaku (US 6,322,448), yet still further in view of Foley, “Computer Graphics: Principles and Practice”. Applicants respectfully disagree for at least the reasons set forth in the discussion that follows. Applicants have further amended the claims to include new claims 20-21. Support for the new claims is provided throughout the present specification including the original claims, page 71, and FIGs. 9 and 11. No new matter is introduced by these amendments.

Claim Rejections Under 35 USC 103:

Claims 1-2, 4-5, 8-9, 13, and 16-17 were rejected under 35 USC 103(a) as being unpatentable over Peterson, “3D Studio MAX 2 Fundamentals” in view of Van Hook (US 6,342,892), further in view of Kaku (US 6,322,448), yet still further in view of Foley, “Computer Graphics: Principles and Practice”. Applicants respectfully disagree for at least the reason that none of the art of record teaches or suggests positioning a copy of the object behind the object or the copy having the same orientation as the object.

The examiner primarily relies on Peterson’s motion blur as teaching the limitations as claim 1 relating to formation and position of the dummy object. For example, on page 3 of the office action, the Examiner indicates that Peterson’s description of object motion blur discloses several of the limitations of claim 1. Applicants believe that any such interpretation is without support in the reference. Peterson’s 3D Studio Max 2 Fundamentals appears to be a publication discussing 3D animation software. The description describes a method of making the animation appear more realistic by including motion blur. The techniques for generating the motion blur, however, don’t teach the limitations of claim 1 for several reasons

including failures to generate the dummy object with the same orientation as the object or to position a copy of the object behind the object.

First, the “copies” suggested by Petersen are taken from a different sample of the virtual space time-position continuum than of the object in the current frame. This sampling is provided to provide the effect of motion in a single frame. That is, Peterson teaches the creation of the object blur effect by rendering in a particular single frame several other images of the object sampled at different times, for instance a frame (or sampling) before the time depicted in the rendered frame and/or a frame (or sampling) subsequent to the time rendered in the present frame. Thus, what is shown is a residual image and perhaps a future image in addition to the current image of the object. Granted, Peterson uses the term “copies” in describing the modifications added to create the blur image. But these “copies” simply do not meet the requisites of the copies of claim 1, including the limitations that the copies are that of the object in its first position. Any doubts as to whether these are residual images should be resolvable by reviewing other portions of the reference. For example, the top diagram of FIG. 16.7 showing 3 images of a rod-shaped object, the object in the diagram appearing to be undergoing a rotation motion about an axis near the lower portion of the rod shaped object. Thus, even if the samples making up the image are copies, they aren’t copies sharing the same orientation as required by claim 1.

More importantly, further review of the reference suggests that these are not even copies of the object as originally appearing in the frame. As noted in Peterson, animated object transforms and object deformations are reflected when performing object motion blur (page 455). The only way that these features can be depicted in Peterson’s copies is by making them correspond to objects sampled at different times, i.e., different frames. Further, Peterson teaches that object motion blur can be used when the object is moving with a curvilinear trajectory (page 455; FIG. 16.10). Each of the foregoing characteristics suggests that Peterson’s copies are just copies of the object in its position at a different time.

A further distinction is evident from Peterson’s failure to teach or suggest that the dummy object is generated behind the object. As best can be determined from the brief description provided in Peterson and the drawings, none of the “residual images” are positioned behind the object. Thus for at least all of the foregoing reasons,

applicants submit that Peterson either alone or in combination with the other art of record fails to teach or suggest all of the limitations of claim 1.

Kaku likewise fails to teach or suggest the limitations of claim 1. Kaku relates generally to an image processing device whereby in the display of the movement of models in virtual space, residual image presentation is applied to the models in order to represent the track of movement of the model as residual images. Actual and residual images are simultaneously displayed on the screen, the residual images processed to be semi-transparent, the degree of transparency increasing as the frames to which the residual images correspond to become more distant in time from the present frame. (col. 22, line 58 to col. 3, line1) This is similar to Peterson in that the residual images are merely copies of the object at different points in time for the object.

Van Hook was cited by the examiner for its teachings as to hidden surface removal while Foley was cited for motivation to perform hidden surface removal. Neither of these teach nor suggest the limitation discussed above with respect to claim 1. Thus for at least the foregoing reasons, applicants submit that the art of record fails to teach or suggest the limitations of claim 1.

Claims 6 – 8, and 11-19 are also independent claims which are believed to be patentable over the art of record for the same reasons as discussed above with respect to claim 1.

The arguments presented in the remarks section of this amendment are believed to provide an adequate response for asserting the allowability of all of the presently pending claims in this present application. To the extent that the applicant has not addressed some issues raised by the Examiner in the Office Action, applicant believes that such unaddressed issues do not require a response at the present time since allowability of the claims has been asserted by the applicant based upon other grounds. However, applicant's lack of response to any of the issues raised by the Examiner does not constitute an admission by the applicant as to the accuracy of the Examiner's assertions with respect to such issues. Applicant specifically reserves the right to respond to such issues at a later time during the prosecution of the present application, should such a need arise.

Claims 20 and 21 have been added and are submitted to be allowable for at least the same reasons as discussed with respect to claim 1. For instance, none of the

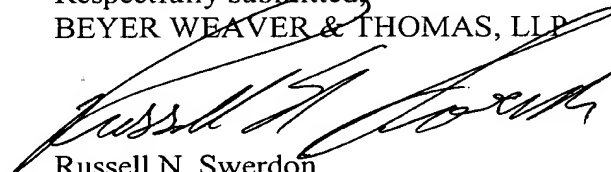
art of record teaches or suggests generating the dummy object by copying the plurality of vertexes of the object or shifting the dummy object to a second position. Further, none teaches that when drawn, the dummy object is positioned behind the object. Instead, Peterson teaches the residual image is superimposed on other images or residual images of the object. (See FIG. 16.7) Finally, none teaches that the dummy object has the same shape and orientation as the object.

Claims 2-5 and 9-10 are dependant claims, which are submitted to be allowable at least due to their dependencies from an allowable independent claim. Moreover, the dependent claims recite additional limitations, and are therefore allowable for these reasons as well. However, in light of the above distinctions in the independent claims, further discussion of the dependent claims is deemed unnecessary.

Conclusion:

Applicants believe that all pending claims 1-21 are allowable and respectfully requests a Notice of Allowance for this application from the Examiner.

Respectfully submitted,
BEYER WEAVER & THOMAS, LLP



Russell N. Swerdon
Reg. No. 36,943

P.O. Box 778
Berkeley, CA 94704-0778
(510) 843-6200